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The catalyst-heavy backflush fluid can then be recycled to the cracking zone (column 6, lines 11 – 12).

Regarding claim 4, *Stegelman* in combination with *Owen* does not teach or disclose recovering the fines and slurring the recovered fines, as required in claim 4 (via dependency from claim 1). *Stegelman* thus fails to bridge the gap between *Owen* and applicant's method of claims 1 and/or 4.

Regarding claim 6, *Stegelman* in combination with *Owen* does not teach or suggest returning the filtrate to the quench oil inventory. Indeed, such a step in the *Owen/Stegelman* processes would clearly have been counterintuitive since this would result in an increase in the quench oil inventory in *Owen/Stegelman*. *Stegelman* discloses forwarding the slurry oil via line 76 to the cracking zone (column 5, lines 25 – 27); *Owen* discloses forwarding the slurry to the main column, where the quench oil is subsequently separated into several product streams (column 8, lines 24 – 28).

Regarding claim 8, neither *Stegelman* nor *Owen* teach or suggest the use of a compressed gas in the backflushing process. *Stegelman* merely teaches the use of unfiltered slurry oil to perform the backflushing (column 6, lines 5 – 10).

Regarding claim 9, neither *Stegelman* nor *Owen* teach or suggest collecting the fines in a hold-up vessel, nor do they teach or suggest adding oil to the collected fines to form a slurry. *Owen* merely discloses the possibility to filter;

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*Stegelman* teaches that the backflush slurry can be forwarded to the cracking zone, and does not suggest using it as a fuel to heat the catalyst regenerator.

Regarding claim 11 and new claim 19, neither *Stegelman* nor *Owen* teach or suggest recycling the 'reconstituted' fines slurry to the regenerator. As mentioned above, *Owen* merely discloses the possibility to filter, and it may be preferred to send the slurry to the main column; *Stegelman* teaches that the backflush slurry can be forwarded to the cracking zone, not the regenerator. *Stegelman* recycles the filter backwash to the cracking zone, and thus does not teach or suggest combustion of slurried fines in the catalyst regenerator. Recycle of the backwash to the cracking zone would not work in applicant's process since the backwash would be incompatible with the light FCC feed and would not facilitate regeneration; conversely, recycle to the regenerator would not work in either *Owen* or *Stegelman* since this would introduce too much heat to the regenerator which *Owen* and *Stegelman* are already removing. Neither reference teaches the modification, and there is in any case no motivation or guidance for such a contrary revision of the accepted prior art methodology.

Regarding linking claim 13, the combination of *Stegelman* and *Owen* fails to teach a filtration loop for circulating quench oil from the liquid holdup zone through a filtration-mode filter and returning filtrate to the liquid holdup zone. Nor does the combination of references teach or suggest a backwashing loop for

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passing a compressed gas through a backwash-mode filter and introducing fines therefrom to a slurry collection zone.

As shown above, *Owen* does not teach or suggest each element in claims 1 – 3, and *Stegelman* fails woefully to bridge the gap. *Owen* in combination with *Stegelman* likewise does not teach or suggest each element of claims 4 – 13 or new claim 19. As such, a prima facie case of obviousness can not be established, as the purported combination of these references does not result in all the claim limitations. Moreover, there is no motivation or guidance for the proposed modifications that would be necessary, from either of the references cited nor elsewhere in the record. The rejection under 35 U.S.C. § 103(a) is improper and should be withdrawn.

#### Restriction Requirement

A restriction requirement was imposed on the claims as drawn to distinct inventions: claims 1 – 12 drawn to a method for recovering fines; claims 14 – 18 drawn to a system for recovering fines. Claim 13 is a linking claim. Applicant hereby confirms the election of claims 1 – 13.

By the arguments presented above, applicant believes that claim 13 is in condition for allowance, and applicant requests that the restriction requirement be withdrawn and claims 14 – 18 rejoined for examination as set forth in MPEP 809.04.

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During the course of these remarks, Applicant has at times referred to particular limitations of the claims which are not shown in the applied prior art. This short-hand approach to discussing the claims should not be construed to mean that the other claimed limitations are not part of the claimed invention. Consequently, when interpreting the claims, each of the claims should be construed as a whole, and patentability determined in light of this required claim construction. Unless Applicant has specifically stated that an amendment was made to distinguish the prior art, it was the intent of the amendment to further clarify and better define the claimed invention.

If the Examiner has any questions or comments regarding this communication, he is invited to contact the undersigned directly to expedite the resolution of this application. Further examination of the application and reconsideration of the claims as originally presented and the allowance thereof is respectfully requested.

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Respectfully submitted,



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